Topic: Liquidity and Market Impact During Stress Events

Market liquidity is the ability of market participants to buy and sell assets relatively quickly and without a significant price impact. Financial crises are often characterized by sharp reductions in liquidity and downward cascades in prices. For liquidity providers, the laws of supply and demand do not necessarily apply in a crisis. A severe price drop could lead to less — rather than more — liquidity, as large losses on existing portfolios force some market participants to hoard their cash.

Such sharp reductions in liquidity have occurred several times in recent history. It is commonly understood that in the equity market crash of October 19, 1987, asset managers using portfolio insurance programs set off a flurry of selling in equity futures. As a result, specialists in the cash equity market, who were trying to sell through program trades but could not find buyers, had a rapid growth in inventory, overwhelming their capital. Investors with ready cash did not quickly enter the market to take advantage of the rapidly falling prices; this inaction led to further price drops and triggered even more portfolio insurance selling. Market breakdowns after the collapse of Long Term Capital Management in 1998 and during the recent financial crisis have similar story lines. Large declines in asset prices were exacerbated by sales from levered investors (and borrowers), overwhelming the balance sheets and capacity of traditional market makers. The result was accelerating price declines, more deleveraging, and in the worst cases, a breakdown of market functioning.

Unfortunately, the vulnerabilities of markets to liquidity shocks are difficult to evaluate. Most research on asset liquidity focuses on normal, day-to-day market functioning and related measures, such as bid-offer spreads and daily volumes. Such data provide limited insight into the dynamics of large-scale liquidations during periods of sharp price declines and deleveraging by intermediaries.

Historical data on how markets behave during a crisis also have limited value because financial intermediation and the market microstructure are always changing. Moreover, market liquidity research has largely focused on the equity markets, rather than on dealer-centric fixed income and over-the-counter derivatives markets, which are more vulnerable to liquidity shocks because of high leverage and dependence on intermediary balance sheets.

The OFR has begun to address these issues in various research projects, so we can better understand how strains on capital and funding can reduce the amount of liquidity that market participants will provide under stress.

Questions for discussion

1. How are risk managers and business lines at financial institutions preparing for the possibility of future liquidity stress?

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2. How have regulatory reforms and other policy reforms affected how liquidity is intermediated? What types of measures would be helpful to mitigate the risk of sharply diminished trading liquidity? How successful are the regulations that are intended to prevent liquidity from drying up during disruptions (such as the stub quote rules)?

3. What are the most important data gaps for the OFR to address in assessing market liquidity?

4. Is there information from large, long-term institutional investors to illuminate their strategies and behavior during periods of reduced market liquidity? For example, what is their time frame for coming into the market? How do they react to price; how much supply would they provide in reaction to changes in price? What are their rules for acting during stress events?

5. If measures of liquidity during normal periods are not helpful in assessing liquidity during stress events, is information available from large dealers or intermediaries about their willingness and capacity to make markets during downturns? How do dealers assess the price impact of large trades during normal liquidity versus stressed liquidity? What factors drive their behavior? How would they change their willingness to take on inventory and what determines that decision?

6. Liquidity disruptions do not last forever, so what causes supply and demand to equilibrate, rather than to continue a positive feedback cycle? What mechanisms and key types of market participants lead to a recovery of prices?

7. What are the most promising research approaches to assessing and measuring market liquidity during stress events, compared with normal periods? Can information from historical crises be adapted or updated in light of significant changes in markets between crisis periods?